Modular Robotics Market to Surge at 18.0% CAGR, Reaching USD 47.59 Billion in 2032 | Reports and Data

The global modular robotics market size was USD 9.15 Billion in 2022 and is expected to register a revenue CAGR of 18.0% during the forecast period.

Reports And Data

NEW YORK CITY, NY, UNITED STATES, May 16, 2023 /EINPresswire.com/ -- The global Modular Robotics Market had a size of USD 9.15 Billion in 2022 and is projected to achieve a compound annual growth rate (CAGR) of 18.0% during the forecast period. The primary driver behind the growth in market revenue is the increasing adoption of collaborative module robots, which offer numerous benefits and features. Modular robotics has a distinct advantage over traditional robotic technologies in terms of reconfigurability, reusability, and ease of manufacturing. These qualities make modular self-reconfigurable robots highly suitable for various applications such as large-scale facility management, space research, war zone surveillance, catastrophe management, and prostheses for physically handicapped individuals, contributing to the revenue growth of the market. Unlike conventional robots, modular system designs can be assembled in different ways to meet the specific requirements of each application with minimal human assistance.

Moreover, there is a growing demand for chain-type modules due to their various advantages, which further contributes to the market's revenue growth. Chain-type modular robots consist of modules linked together in a linear or tree structure. Although they can fold up to save space, their fundamental design is serial. These robots can autonomously change their structure to transform into shapes such as a wheel, quadruped, serpent, and more.

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The increasing utilization of the Robotics-as-a-Service (RaaS) concept is anticipated to drive the market's revenue growth. RaaS addresses ownership concerns, such as the initial cost of purchasing a large piece of machinery and handling unexpected repair needs. The most

apparent benefit of RaaS is cost savings since customers do not have to buy robots outright, reducing the initial adoption cost. As these robots are designed to be adaptable, companies can save money on training them for specific workplace environments. Additionally, RaaS improves accessibility, as customers can easily replace their outdated equipment with newer options from the same supplier. Upgrades only require paying a higher fee, which is relatively more cost-effective than purchasing a brand-new robot. In some cases, businesses may even be able to incorporate new features into their robots using cloud-based technology.

Segments Covered in the Report –

The modular robotics market can be categorized based on different types of robots. One such type is articulated modular robots, which offer flexibility and a wide range of motion due to their multiple joints. Cartesian modular robots, on the other hand, operate along three orthogonal axes, allowing for precise and controlled movements. SCARA modular robots are known for their Selective Compliance Assembly Robot Arm design, which enables them to perform fast and repetitive tasks with high precision. Parallel modular robots consist of multiple limbs that work in parallel to achieve complex movements and manipulations. Collaborative modular robots are designed to work alongside humans, enhancing productivity and safety in various industries. Finally, there are other modular robots that may have unique designs or functionalities.

The market for modular robotics is also influenced by different industries. The automotive industry relies on modular robots for tasks such as assembly, painting, and welding. Electrical and electronics manufacturers benefit from modular robots in tasks like component placement and quality control. The metal and machinery industry utilizes modular robots for material handling, machining, and inspection processes. In the food and beverages sector, modular robots assist in packaging, sorting, and handling delicate items. Precision engineering and optics benefit from modular robots in tasks requiring intricate movements and measurements. The pharmaceuticals and cosmetics industry employs modular robots in areas such as lab automation, drug dispensing, and product packaging. Lastly, there are other industries that may find applications for modular robotics, depending on their specific needs and requirements.

Overall, the modular robotics market offers a diverse range of robot types and serves various industries with their unique demands, contributing to the growth and advancement of automation and robotic technologies across different sectors.

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Strategic development:

OhmniLabs announced the availability of a new Ohmni Modular Robotics Platform on May 19, 2021. This platform aims to expedite the development of innovative mobile robotic solutions. Customers can utilize the OhmniLabs platform to create their own robots by selecting from a

pre-set range of components. Additionally, OhmniLabs has the capability to produce a significant portion of the robot's parts in-house through additive manufacturing. They have honed their iterative design process and can assist customers in customizing, prototyping, and constructing entirely new machines.

Berkshire Grey, a developer of robotic solutions for automating supply chain processes, introduced their next-generation Robotic Product Sortation (BG RPS) system on December 10, 2022, specifically designed for order fulfillment. This high-capacity automation system autonomously selects, arranges, and packs individual products into outbound order containers without the need for human operators. The latest version of BG RPS incorporates several new features, including a unique twin-wing design that doubles the capacity for simultaneous order processing and increases speed by approximately 25%. Customers can now place orders for this advanced robotic system.

Competitive Landscape:

The global modular robotics market has a consolidated competitive landscape, with a small number of prominent players operating at both global and regional levels. These key players are actively involved in product development and strategic alliances to enhance their product offerings and establish a strong presence in the global market. Notable companies in the market include ABB, John Wiley & Sons, Inc., KUKA AG, Fanuc Corporation, Mitsubishi Electric Corporation, Kawasaki Heavy Industries, Ltd., Yaskawa Electric Corporation, Universal Robots, Rethink Robotics, and NACHI-FUJIKOSHI CORP.

These market leaders continually invest in research and development to innovate and introduce advanced modular robotics solutions. They focus on expanding their product portfolios to cater to diverse customer needs across various industries. Strategic collaborations, partnerships, and acquisitions are also common strategies employed by these players to strengthen their market position and expand their geographical reach.

By leveraging their extensive industry experience and technological expertise, these key players maintain a competitive edge in the market. They strive to deliver high-quality modular robotics solutions that offer enhanced performance, flexibility, and ease of use. Additionally, these companies often provide comprehensive after-sales support and services to ensure customer satisfaction.

Overall, the presence of major players in the global modular robotics market creates a competitive environment driven by innovation, product development, and strategic collaborations, ultimately benefiting customers with a wide range of advanced modular robotics solutions to choose from.

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